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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/993,855	11/13/2001	Amit Ganesh	50277-1769	7991

29989 7590 05/17/2005

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EXAMINER

WILSON, YOLANDA L

ART UNIT	PAPER NUMBER
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2113

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/993,855

Applicant(s)

GANESH ET AL.

Examiner

Yolanda Wilson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 February 2005.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-43 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☒ Claim(s) 14-21 and 36-43 is/are allowed.  
6) ☒ Claim(s) 1-13 and 22-35 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**FINAL DETAILED ACTION**

***Allowable Subject Matter***

1. Claims 14-21,36-43 are allowed.
2. The following is a statement of reasons for the indication of allowable subject matter: The primary reason for the allowance of claims 14-21 and 36-43 is the limitation determining whether data indicating a second pending request for a second resource precedes the data indicating the first pending request in the data structure.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-13,22-35 are rejected under 35 U.S.C. 102(e) as being anticipated by Schofield et al. (USPN 6493826B1). As per claims 1 and 23, Schofield et al. discloses performing a first operation of said first plurality of operations associated with the atomic transaction; during said step of performing the first operation, detecting a first error that prevents completion of the first plurality of operations; in response to detecting the first error, performing a second plurality of operations for resolving the first error; determining whether a resolution of the first error is obtained in response to performing

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the second plurality of operations; and if the resolution is obtained, then resuming execution of the first plurality of operations in column 6, line 58 – column 7, line 30.

5. As per claims 2 and 24, Schofield et al. discloses determining whether the resolution is obtained within a particular time period; and if the resolution is not obtained within said particular time period, then performing a third plurality of operations to remove all changes made by the atomic transaction to said first set of data in column 9, lines 1-23.

6. As per claims 3 and 25, Schofield et al. discloses determining whether the first error is a member of a predetermined set of errors for which corrective action is available for allowing the atomic transaction to be completed; and said step of performing the second plurality of operations is initiated upon determining that the first error is a member of the predetermined set of errors in column 9, lines 1-23. The system failure would have to be a predetermined error in order to know how to recover from the failure.

7. As per claims 4 and 26, Schofield et al. discloses detecting that the first error indicates a lack of sufficient resources to complete said atomic transaction; and the step of performing the second plurality of operations includes performing operations directed to obtaining additional resources in column 9, lines 1-23.

8. As per claims 5 and 27, Schofield et al. discloses performing operations directed to obtaining additional resources includes inviting human intervention to supply the additional resources in column 9, lines 1-23.

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9. As per claims 6 and 28, Schofield et al. discloses the additional resources includes at least one of durable storage space, memory, processors, and communication bandwidth in column 9, lines 1-23.

10. As per claims 7 and 29, Schofield et al. discloses the additional resources include at least one of: storage space for a database associated with said first set of data; and storage space for storing undo information that indicates how to undo said changes to said first set of data in column 6, line 58 – column 7, line 30; column 11, lines 21-25. A storage space is a resource.

11. As per claims 8 and 30, Schofield et al. discloses requesting a first resource by calling a first instance of a service; and said steps of detecting the first error, performing the second plurality of operations, and determining whether the resolution is obtained are performed by the first instance of the service in column 9, lines 1-23.

12. As per claims 9 and 31, Schofield et al. discloses requesting a second resource during said requesting the first resource by calling a second instance of the service in column 9, lines 1-32.

13. As per claims 10 and 32, Schofield et al. discloses the second instance performing the steps of detecting the first error; and passing data indicating the first error to the first instance in column 9, lines 1-23.

14. As per claims 11 and 33, Schofield et al. discloses the second instance performing the step of aborting the request for the second resource in response to detecting the first error in column 9, lines 1-32.

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15. As per claims 12 and 34, Schofield et al. discloses performing an operation that suspends execution of remaining operations of the first plurality of operations in column 9, lines 1-23.

16. As per claims 13 and 35, Schofield et al. discloses the step of performing the second plurality of operations includes releasing all locks held on all resources as a result of the first operation in column 9, lines 1-23.

17. As per claim 22, Schofield et al. discloses performing a first operation of said first plurality of operations associated with the atomic transaction; during said step of performing the first operation, detecting a first error that prevents completion of the first plurality of operations; determining whether the first error is a member of a predetermined set of errors for which corrective action is available for allowing the atomic transaction to be completed; and upon determining that the first error is a member of the predetermined set of errors, performing a second plurality of operations for resolving the first error, including releasing all locks held on all resources as a result of the first operation, and performing an operation that suspends execution of remaining operations of the first plurality of operations; determining whether a resolution of the first error is obtained within a particular time period in response to performing the second plurality of operations; if the resolution is obtained, then resuming execution of the first plurality of operations; and if the resolution is not obtained within said particular time period, then performing a third plurality of operations to remove all changes made by the atomic transaction to said first set of data in column 6, line 58 – column 7, line 30;

column 9, lines 1-32. The system failure would have to be a predetermined error in order to know how to recover from the failure.

***Response to Arguments***

18. Applicant's arguments filed 02/14/2005 have been fully considered but they are not persuasive. Applicant states on page 3, concerning claims 1 and 23, under the Remarks/Arguments section, "However, in Schofield, non-committed transactions are backed out or rolled back. There is no teaching or suggestion in Schofield of resuming the first set of operations. It should be noted that a transaction is functionally different than resuming the execution of a transaction. The advantages of resuming the transaction as opposed to restarting is that they system functions more efficiently as well as saving a significant amount of time. If the failed transactions are undone, and subsequently restarted, hours of time are consumed to perform the undo operations and then repeat the transaction operations already performed. This is both inefficient and very time consuming."

19. Examiner respectfully disagrees with Applicant. Examiner would like to point to column 7, lines 23-30. This section of Section of Schofield discusses the volatile-memory containing information for normal forward processing and backout processing.

20. Applicant argues on page 3, under the Remarks/Arguments section, "Similarly, Schofield states that 'the present invention provides a transaction processing system in which records associated with operations of the system are stored in order to permit recovery in the event of a need to roll back a transaction or to restart the system.'

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(Column 6 lines 45-49). There is no teaching or suggestion in Schofield of resuming the execution of a transaction that had an error.”

21. Examiner respectfully disagrees with Applicant.

22. Applicant argues on page 3, under the Remarks/Arguments section, “Additionally, Schofield does not attempt to resolve the error. Schofield’s response to a transaction failure before successful completion of the transaction is to ‘read the volatile-memory list for the transaction to determine which operations are to be backed, and backing out the operations using the information of the volatile-memory list’ (Column 7 lines 9-13). When operations are backed out or rolled back, the transactions are undone and subsequently restarted Thus the error which occurred is never resolved. In contrast, Claims 1 and 23 recite, ‘in response to detecting the first error, performing a second plurality of operations for resolving the first error.’”

23. Examiner respectfully disagrees with Applicant. The first error as indicated in Schofield deals with a transaction failure. The second plurality of operations pertain to whether or not the transaction needs to be backed out or not. As indicated in column 7, 23-27, a memory list keeps both the normal forward processing and backout processing; therefore, if the transaction does not need to be backed out it will continue normal forward processing.

24. Applicant argues on page 5, concerning claim 22, under the Remarks/Arguments section, “Similar to Claims 1 and 23, Claim 22 indicates that if the resolution of the error is obtained, then the first plurality of operations is resumed. In contrast, the passages



cited by the Office Action recite backing out or rolling back the transaction if there is an error, and never discuss resuming execution of the transaction.”

25. Examiner would like Applicant to look at the response above concerning this limitation in Claims 1 and 23.

26. Applicant argues on page 6, under the Remarks/Arguments section, “As discussed above, semaphore locks are used to ‘acquire a resource, by one process at a time, to prevent processes from interfering with each other.’ This is not the same as ‘determining whether a resolution of the first error is obtained’ as recited in Claim 22. Furthermore, column 9, lines 1-32, does not disclose that if the resolution is obtained, then resuming execution of the first plurality of operations.”

27. Examiner respectfully disagrees with Applicant. The resolution to the first error is based on which transactions need to be backed out and which need to continue forward processing.

### ***Conclusion***

28. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yolanda Wilson whose telephone number is (571) 272-3653. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
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